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My Interdisciplinary Perspective on Climate Change [Natural Sciences]

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Submission for LaGuardia's Learning Matters Assignment Library

Date Submitted: 02/12/2021

Title of the Assignment: Learning Community Signature Assignment “My Interdisciplinary Perspective on Climate Change”

Assessment Deposit Course: NSF 101 First Year Seminar for Natural Sciences

Targeted Core Competencies: Integrative Learning; Global Learning

Targeted Communication Abilities: Digital; Oral

Assignment Description:

This assignment titled “My Interdisciplinary Perspective on Climate Change” was developed in Fall 2020 as the *signature assignment* of the STEM Learning Community LC50 for students enrolled in the Biology program of the Natural Sciences department, at LaGuardia Community College, CUNY. The assignment targets Integrative Learning and Global Learning Core Competencies, and Digital/Oral Communication Abilities.

For this STEM Cluster, “Climate Change” is the shared theme that connects learning from the different disciplines and helps build students’ overall knowledge on an imperative issue that our planet currently faces. Work on this assignment entails a narrated digital student presentation on the various aspects of Climate Change such as causes, global effects and manifestations, and possible remedial solutions or suggested actions. Students also practice summarizing the research and learning on this theme from the various courses undertaken in the first semester.

The main goal of this signature assignment is to make connections among the ideas, experiences and learning acquired among the different courses, assignments and co-curricular activities of this semester that contributed to the students’ understanding of this global phenomenon. This high-stakes assignment is worth 20% of the final grade in NSF 101: First Year Seminar for Natural Sciences (program-core course). Students are guided by all four instructors of the Learning Community, which comprises of the courses- NSF 101, MAT 115: College Algebra and Trigonometry, ENG 101: Composition I, and HUC 106: Public Speaking, through a 12-week scaffolded process to complete work and showcase their findings as a well-informed Biology major and responsible citizen of society. This assignment meets the NSF101 learning objectives and helps the students to hone their skills on the targeted Core Competencies (Global/Integrative Learning) and Communication Abilities (Digital/Oral), thereby increasing their chances of being successful in the subsequent 200-level classes of their major.

Student artifacts were deposited for this assignment at the end of the semester for college-wide Benchmark Readings 2021, and the Fall 2020 Learning Communities Seminar (as the LC assignment). Due to the serious COVID-related situation in New York state in Fall 2020, including high incidence of the disease and the associated challenging and technical issues at some students’ end, more emphasis was placed on helping the students learn how to prepare a *digital presentation*

embodying their work on science, data analysis, writing and communication skills, while incorporating elements of integrative and global learning from all four classes on Climate Change. However, when the assignment is implemented again in the future, both Digital and Oral Communication Abilities will be fostered in all student work. It is noteworthy that some students managed to cover both these abilities in their work in Fall 2020 also.

ASSIGNMENT PRESENTED TO THE STUDENTS

Learning Community Signature Assignment: "My Interdisciplinary Perspective on Climate Change"

Introduction:

This scaffolded assignment, completed over the course of 12 weeks, entails a narrated digital student presentation on the various aspects of Climate Change such as causes, global effects and manifestations, and possible remedial solutions or suggested actions. It also calls for a summary of the research and learning on this theme from the various courses undertaken in the first semester. The main goal of the assignment is to make connections among the ideas, experiences and learning acquired from the different courses, assignments and co-curricular activities of this semester that have contributed to your understanding of this global phenomenon. This high-stakes assignment is worth 20% of the Program-core course (NSF 101) grade. You will be guided by all four professors of the Learning Community through a 12-week scaffolded process to complete this assignment and then showcase your findings as a well-informed Biology major and responsible citizen of society.

Core Competencies: Integrative Learning and Global Learning Communication Abilities: Digital and Oral

I. Learning Objectives

By completing this assignment, you will acquire the following skills and dispositions:

- a) Learn to make connections and synthesize knowledge acquired from different classes, co-curricular events and/or personal experiences on the shared theme of Climate Change, and apply that knowledge or ability to different settings. This is called **Integrative Learning** and it will greatly contribute towards your personal growth as a confident and mature college student.
- b) Strengthen your ability to correctly research on, understand and analyze complex global issues, and their effects on all forms of life and our planet. This is called **Global Learning** and it involves communicating information on a global issue from diverse perspectives, while also suggesting possible ethical solutions.
- c) Demonstrate effective **Digital and Oral communication** skills. **Digital Communication** is defined as the thoughtful use of a range of digital modalities such as images or pictures, videos, audio, graphs and tables supporting your story or argument to create a unified message. On the other hand, good **Oral Communication** requires attention to volume, clarity, pace and tone variations in speech. You will learn to navigate across various communication tools to prepare your own end-of-the-semester presentation. Your presentation would demonstrate both your command over the discipline as well as your ability to communicate effectively.

II. Sequential guidelines for completing the assignment

You have to prepare a narrated digital presentation (video) for this assignment (6-8 min long), and you will require 2 things for this: (i) A collection of pictures/images, and (ii) A script to record

your voice narrative (audio) that will accompany the pictures in the video. You can work on the two separately (part by part as described below) and link them later to prepare your final video.

Part 1- Introducing Yourself and the Theme (to be completed by Week 4): (5 points)

In this part, begin your work on the following two aspects.

- 1) As you work on the “About Me” section of your core ePortfolio in the early weeks of the semester, **Collect some pictures** on: a) introducing yourself, b) your career goals and why you chose to be a Biology Major, c) your country of origin and perhaps an issue there you think is related to Climate Change (such as air or water pollution, floods etc.), and e) causes of Climate Change and its various global effects.
- 2) **Start writing a script (~300-400 words)** on the details you have collected so far i.e. Your introduction based on your “About Me” write up and describe in brief what you have learned about Climate Change from the various classes in the initial weeks of this semester. **This part will constitute the first 2-3 minutes of the video.** Incorporate the following ideas that relate to **Global Learning on Climate Change**:
 - a) Define Climate Change, discuss the possible scientific reasons behind it and the effects of this global phenomenon on our environment and existence of all life forms in our planet.
 - b) Start making some connections between your initial introduction to the topic of climate change and the different courses you are taking. This will help you to transition smoothly to the next part.

Part 2- Drawing connections and Integrating knowledge (to be completed by Week 8): (5 points)

Address the following prompts in the next part of your video to demonstrate **Integrative Learning** acquired by taking the different courses of this Learning Community. Work on both aspects: collecting **representative pictures** and writing the **next part of the Script (~400-600 words for next 3 minutes of the video)**.

- a) Links between NSF 101 and MAT 115: Briefly discuss the experiments performed, data collection and interpretation techniques (such as plotting of graphs, slope calculation etc.), and their significance in the context of Climate Change.
- b) Links between NSF 101 and ENG 101: Briefly describe how the writing and research assignments in the two classes helped you to perform successfully and understand the multiple facets of Climate Change (Research Paper/Essays, Al Gore’s reading, Water Pollution/Water Project and learning APA/MLA style of referencing).
- c) Connections of HUC 106 with ENG 101, MAT 115 and NSF 101: Briefly describe how exercises in HUC 106 linked with related topics in the other classes and helped you with oral communication skills (Informative/Persuasive/Celebratory Speech and View Yourself as a Scientist).

Part 3- Reflection (to be completed by Week 10): (5 points)

Address the following prompts to prepare the conclusion part of your video, while reflecting on this scaffolded assignment and your experience of participating in a learning

community. Work on both aspects- collecting **representative pictures** and writing the **last part of your Script (~ 300 words for the final 2 minutes of the video)**.

- a) Your final take on Climate Change (**Global Learning**)- How has your thinking on the subject of 'Climate Change' changed since taking these courses? Think about what possible solutions and actions for civic engagement you can suggest or that you would practice yourself to overcome this issue and help protect our environment.
- b) Reflection and Self-assessment (**Integrative Learning**)- Explain how participating in this Learning Community has helped you understand and prepare better for your Major and future STEM career. Be as specific as you can and consider briefly discussing a piece of learning (assignment or activity) from each of the four courses, which you think were the most beneficial in terms of refining your skills and preparing you for the advanced 200-level courses you will be taking in the next semesters.
- c) How has this topic impacted you directly (**Integrative Learning**)? Feel free to draw on your experiences from the co-curricular events (UN, Newtown Creek) to reflect on your journey. You could also discuss how the new knowledge you have acquired during this semester has made you more interested in further exploring the STEM field and careers related to Biology.

Final Packaging (to be completed by Week 12): (5 points)

Now that you have worked on all the above-stated three parts of the assignment and your script and collection of pictures/images are ready, work on the **Digital Presentation**. Record a voice narration (audio) of your script. *Pay attention to Volume, Clarity and Tone variations in speech, while recording the audio.* Combine the pictures/images appropriately with your audio file. Your Student Success Mentor (SSM) will help you with the technology needed for this during the Studio hours (in Weeks 10, 11 and 12). *You can make your own creative video using Apple or Windows software (your SSM will discuss this in more detail) or using a Narrated PowerPoint presentation.* **You will get an opportunity to present a rough draft of your script/video in Week 11 of NSF 101 and in HUC 106 you will receive feedback for revision before submitting the final version.**

III. Assignment specifics

Due by: Week 12 of the semester. You have 12 weeks to complete the entire assignment.

Grading: 20% of your total NSF 101 course grade. Total number of points possible – 20 points (5 points for completing Part 1; 5 points for completing Part 2; 5 points for completing Part 3; and 5 points for your digital video overall preparation quality that is posted on the ePortfolio).

Please note: A good quality digital video does not have intermittent interruptions or long pauses, and has a smooth transition of the embedded pictures or images with a continuous voiceover that describes them. You can either make your own creative video or use a Narrated PowerPoint presentation. In either case, your Student Success Mentor (SSM) will help you to link the images/pictures with the voiceover audio during the Studio hour.

Where to deposit the Assignment Digital video: Please make sure to upload the video at **TWO** locations on college ePortfolio/Digication system, as indicated below:

- 1) **Your own Core ePortfolio:** On the “Homepage” below My STEM Identity, and also Under Coursework- First Year Seminar (NSF101), on the “Digital Story- Signature Assignment 2” sub page.
- 2) **NSF 101 XXXA-LECTURE ePortfolio:** Under the “Assessment” tab, for Global Learning & Integrative Learning/Oral and Digital.

IV. Grading Criteria

Your assignment will be graded based on how well you address the Integrative Learning and Global Learning Core Competencies, and Digital and Oral Communication Abilities in your work (see their definitions provided in the *Learning Objectives* section). Carefully read the *specific guidelines* provided in the 3 Parts and Final packaging section of the assignment; these instructions (prompts) target both Integrative and Global Learning competencies and Digital and Oral communication abilities. Try to cover all prompts in each part, while writing your script and collecting pictures for the video. The grading will be done at 4 levels (point value of the overall assignment and each of its parts is provided in the *Assignment specifics* section): (1) Novice/Poor: 25% points, (2) Developing: 50% points, (3) Competent: 80% points, (4) Proficient/Extremely Well done: 100% points. For more details, refer to the *college-wide Core Competency and Ability rubrics* (see the Reference provided in the next section).

V. Reference

LaGuardia Community College Core Competency and Ability rubrics (2018-19). LaGuardia Assessment Website: <https://www.laguardia.edu/assessment/>